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ABSTRACT

The research resumes presented here comprise the responses received by the Stanford Child Language Project to a general request for reports on research in progress. These reports include all those distributed at the Child Language Research Forum in March 1972 and a small number received later. The resumes cover a wide range of topics and present, in order, the following information: research area, language, subjects/informants, ages, theoretical issues, and abstract. (Author/PMP)

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CURRENT CHILD LANGUAGE RESEARCH RESUMES

The following research reports comprise the responses received by the Stanford Child Language Project to a general request for reports on current research in progress. They were distributed at the Child Language Research Forum, March 25, 1972 at Stanford University. The following reports include all those distributed at that time plus a small number received later. The resumes present, in order, the following information: research area, language, subjects/informants, ages, theoretical issues, abstract. These labels are provided and underlined in the first abstract, although omitted from the subsequent ones for the sake of brevity.

ALLEN, Doris A. Dept. of Languages and Literature, Teachers College, Columbia University, Box 66, New York, New York 10027.

Research area: Development of predication in child language. Language: English. Subjects/Informants: 1 live & 4 taped. Ages: 17 months to 3 years. Theoretical issues: Alternative to generative-transformational grammar as theoretical framework for studying early syntax--including single word utterances.

Abstract: The aspect of child language dealt with in this study is that of PREDICATION, operationally defined at the most basic level of analysis as (1) "saying something about X in such a way as to give new information about X" or (2) stating the existence of X. The grammatical system used is that of sector analysis, a tagmemic-type grammar which views a language as consisting of a finite set of constructions combined systematically in a hierarchy of positions on different layers according to the conventions of that language. Questions include: (1) How does predication develop from single word utterances through full predicates? (2) What must the child know about syntax to progress into full sentences? (3) Are different kinds of "meanings" (syntactic and semantic) encoded at identifiable points in the linguistic hierarchy? (4) Can we identify the relationship between the development of predicational structures in child language and the cognitive structures suggested by Piagetian research? The project includes systematic analysis of taped transcription of one "new" child, Augusta, as well as re-examination of Bloom's data for Kathryn, Eric, Gia, and Allison. Non-linguistic and linguistic contexts are considered in making the analyses--following procedures used by Bloom.

BARON, Naomi. Committee on Linguistics, Stanford University, Stanford, Ca. 94305. Syntactic development. English. 40. 2 1/2 - 5. The role of children as sources or carriers of linguistic change; the structure of English causative constructions.

Much recent work in historical linguistics (e.g. Halle, 1962; Weinreich, Labov, and Herzog, 1968; Kiparsky, 1968) has emphasized the importance of children as sources or carriers of linguistic change. While some developmental psycholinguists (e.g. Sinclair, 1971) acknowledge the possible role of diachrony in formulating their own research problems, almost no one has seriously asked how language acquisition data might substantiate or refute hypotheses about language change. This study traces in detail the phylogenetic and ontogenetic evolution of a particular construction in English, periphrastic causatives (e.g. The king had the prisoner killed; Mommy made the bridge fall down; Grandma got the sweater dirty). Not looking for strictly parallel

developments in children and linguistic communities, I examine the kinds of strategies children use in attaining linguistic control over these constructions. Data include longitudinal corpuses as well as imitation, comprehension, and production experiments on 2 1/2 - 5 year old children. By using these developmental strategies to structure historical data on the growth of English periphrastic causatives, we can seriously begin to ask how children actually effect language change.

BARTON, Nancy. BIDDLE, Bruce. CAMPBELL, Lyle. HAYS, Daniel. LOFLIN, Marvin. MAFLIN, Marjorie. Center of Research in Social Behavior. University of Missouri, Columbia, Mo. 95201.
Formal linguistic analysis (semantics, case grammar) and sociolinguistics. 6, 11, 16. English.

The goals of this project are to provide solutions for problems in both formal linguistic analysis (e.g., semantic representation, reference, logical operations, syntactic rules, etc.) and sociolinguistics (e.g., linguistic variation based on identity of speaker and/or hearer, on context, etc.), using the sound empirical base of classroom interactive discourse.

We have recorded many videotapes of first, sixth, and eleventh grade ghetto and suburban classrooms. A selection of these has been transcribed, edited, and analysed in terms of a case-grammar deep structure, with requisite aspects of the non-linguistic context coded as well. These grammatically and contextually implicit aspects of the coding we call reconstruction. Aspects of the analysis coded for computer processing are case, person, number, gender, address forms; complex sentence embeddings, conjoinings, pro-form references, verb types, etc. In addition to the formal linguistic analysis, quantitative techniques of analysis have been applied to these data.

We currently are working out the sociolinguistic correlates (e.g., pupil, race, and grade level with the surface and deep structure linguistic features), and we are trying to solve problems of the formal analysis of semantic and syntactic representation.

BELLUGI, Ursula. FISCHER, Susan. The Salk Institute for Biological Studies, P.O. Box 1809, San Diego, California 92112.
Semantic and syntactic development. American Sign Language. Deaf children. 1;6-5;0. Acquisition of language in a different mode.

I am interested in the biological processes of language, its structure and structure of human thought as expressed in language. One way to learn about these universals is to study the communication and language as it develops when people are deprived from birth of hearing and therefore do not speak. We have begun a series of studies in the structure of sign language and the ways in which deaf children of deaf parents learn sign as a native language. We are studying how the form and structure of spoken and sign languages differ and in what ways they are alike. We use studies of spontaneous signing, or paraphrases, of folk art, and experiments in memory for signs. In our language studies we are investigating semantic development of negation, interrogatives and sentence structures in general.

BULLOWA, Margaret. STEVENS, Kenneth N. Massachusetts Institute of Technology. 77 Massachusetts Ave., Cambridge, Mass. 02139. Room 20B-145.
Infant vocalization. English. 5. 0 to 1. Infant Vocalization in Context.

A detailed study of infant communicative development from birth to onset of recognizable speech at about one year is undertaken. An ethological approach viewing infant vocalization as though it constituted the "call" component of a primate "display" is employed. Information from existing longitudinal audio and film records collected weekly from birth in the natural home setting for several infants is used.

Our purpose is to establish the meaning of infant calls in their display context. Categorization will proceed at four levels of analysis: 1) Infant sounds acoustically described from voiceprints for duration, fundamental frequency pattern, onset characteristics, noise in the airstream, etc.; 2) Passages comprised of relations among sounds and of visual information; 3) Passage contexts, the relation of infant passage and interactant behavior; 4) Social contexts, sequences of passages interpreted as instrumental activities, e.g., feeding or bathing. This analytic procedure views infant behavior as hierarchically organized.

Our approach represents a return to an earlier concept of infant vocalization as meaningful in greater detail than is generally attributed to it now. We hope to provide basic knowledge about vocalizations that develop into speech and language and that our method will be a contribution to the study of child development. Our findings should have far-reaching influence on early childcare practice through more accurate recognition of infant expression of intention and mood.

CHAPMAN, Robin S. Department of Communicative Disorders, University of Wisconsin, 1975 Willow Drive, Madison, Wisconsin 53706.
Cognitive and linguistic aspects of question acquisition. American English. 20. 2 - 6. Perceptual and semantic strategies in use and comprehension of questions; the developmental interaction of language and thought; the role of input in language acquisition.

A year-long longitudinal study of 20 normal children aged 2 1/2 to 5 is proposed in which data from parent-child dialogues, structured interviews, and experimental tests are gathered to establish:

(1) A developmental sequence of selected questions and question responses for both comprehension and production (questions will be selected from the WH-question set standing for optional expansions of the base structure; e.g., how, how often, how many, how long, how far, when, why?).

(2) A developmental sequence for the understanding of the concepts associated with the questions (e.g.,child's number, time, causality).

(3) The inter-relationship of form and function in question acquisition: when does cognitive development lead grammar, and when does the grammatical development lead cognition?

(4) The contingencies between question acquisition and linguistic input from the parent.

A secondary set of concerns will be the development and comparison of methods for studying linguistic and cognitive development. The study should contribute new information to the field of developmental psycholinguistics, since the particular WH-questions selected have not been examined before; nor has cognitive development been studied in relation to the child's developing linguistic system for interrogatives. The findings can be directly applied in the work of language therapists with mentally retarded children, the deaf, or other individuals needing special help in developing linguistic competence. The study will begin in June 1972.

CLARK, E. V. Committee on Linguistics, Stanford University, Stanford, Ca. 94305. The acquisition of semantic distinctions. English. 70. 1;0 - 5;0 appr. Basis for deciding X is a semantic feature; relation of such features to perceptual and cognitive development in general.

A series of studies (experimental) are being run in order to establish the order of acquisition of different terms in English used to describe spatial and temporal relations, and to describe dimensional properties. Most of the studies involve the child's carrying out instructions, and thus showing whether or not he has understood a particular term. The errors made are further analyzed in order to set up a tentative set of semantic features that can be used to represent the relational and atomistic aspects of the meanings of these terms in the lexicon. These studies are presently in progress.

CURTISS, Susan. FROMKIN, Victoria. KRASHEN, Steven. Department of Linguistics, UCLA, Los Angeles, California 90024.
Phonology, syntax, semantics: development of child reared for ten years in environment of extreme deprivation. English. 1. 14. Linguistics Universals; critical age hypothesis; developmental grammars.

On November 4, 1970, a 13-year-old child, who had been reared in an environment of extreme physical and psychological neglect and social isolation for over 10 years was admitted to the Childrens Hospital of Los Angeles. This child lacked speech and any overt signs of language competence. She was unable to control her "vocal organs" for the production of speech sounds and was also unable to use these muscles to chew or control swallowing. More seriously, perhaps, than her "performance" deficits was her inability to comprehend spoken language. She therefore faced the simultaneous problems of language learning and of acquiring the skilled muscular controls necessary for speech. The changes which have occurred since that time are remarkable; her comprehension of language, her expressive speech, and her understanding of concepts and cognitive relations have all progressed beyond our expectations.

We who are working with "Genie" (the pseudonym we are using as a small effort to protect her privacy) on her linguistic development are concerned with the sequential stages of her acquisition of phonology and syntax as compared with a normal child. The similarities and convergences with hypothesized developmental universals are of interest. The data provide insights into the relationship between comprehension and production, language and cognition, competence and performance. In addition, the study of linguistic development in Genie is especially meaningful because of her parapubertal age. Lenneberg's "critical age" hypothesis is viewed in light of the data collected. Dichotic listening tests are being administered as evidence concerning lateralization. Comprehension and production language "games" have been developed. Whether this case history is viewed from a humanitarian or a scientific view, the linguistic achievements to date are impressive and provide evidence for questions of interest to psychologists and linguists.

EDWARDS, Mary Louise. GARNICA, Olga K. Committee on Linguistics, Stanford University, Stanford, California 94305.
Phonology. English. 4. 1:11 - 2:4. Variations in spontaneous vs. repeated speech.

In various accounts of phonological acquisition, it has been noted that there may be considerable differences between the form of a word said spontaneously by a child and the form of that word when it is repeated by the child after an adult model. However, no one has tried to specify these differences systematically, and some researchers ignore them entirely, treating imitated and spontaneous speech as if they were the same.

In this study we are recording a one-hour session with each of four children, ranging in age from 1:11 - 2:4. In the sessions we use toys and books to get the children to say familiar words spontaneously. Then, immediately after a word is said by the child, the adult researcher says the word and tries to get the child to repeat it. All of the data are transcribed in fine phonetic transcription. The variations are noted and analyzed.

We have found that some specific kinds of variations recur and are now in the process of making general statements concerning these variations.

EDWARDS, Mary Louise. LUCKAU, Jean M. COOK, Marjorie. Stanford Child Language Project, 671 Oak Grove, Menlo Park, California 94025.
Phonology - specifically, the development of English fricatives and glides. English. 10. 1:6 - 2:6. Universals of developmental phonology.

This study is an attempt to find out as much as possible about the development of the phonological subsystems of fricatives and glides in English. The children are being seen for a one-hour session every other week over a period of five months.

The sessions combine spontaneous speech, guided elicitation, and imitated speech. Toys and books are used to elicit familiar words containing (in the adult form) the target sounds. All of these words are then transcribed in a narrow phonetic transcription.

When all the data is collected and transcribed, we hope to be able to show 1) the phonetic detail of successive approximations to the adult model, and 2) the patterns of substitution of one phoneme for another. It is felt that this study will yield useful data and new insights on phonological development. The primary method of data presentation will be a succession of phonological grammars of the fricative and glide subsystems and "rules of change" for successive phonetic stages of the sounds in question.

EDWARDS, Mary Louise. LUCKAU, Jean. COOK, Marjorie. INGRAM, Judith. Stanford Child Language Project, 671 Oak Grove, Menlo Park, California 94025. Phonology and discrimination. English. 31. 1.6 - 4. Does discrimination precede production?

It has been observed in the past that discrimination precedes production, i.e., that a child can hear the difference and can discriminate between sounds like f and θ before he can produce them correctly. This study attempts to show for English glides and fricatives that discrimination does precede production. It also shows the direction in which substitutions usually occur and the order in which discrimination proceeds (e.g., discrimination of k - g and f - v precedes discrimination of x - y).

The method used is the Shvachkin-Garnica discrimination technique (see Shvachkin, 1948, and Garnica, 1970). Objects ("block people" in this case) are given nonsense names (CVC's) which differ only in the initial consonant. To indicate that he can discriminate between the names, the child has to perform an action with the object named by the CVC when requested by the experimenter. Several pairs of oppositions have been tested, comprising four specific hypotheses.

The basic assumption of this study is that a child first learns to discriminate between two sounds and stores items correctly, and then he gradually masters the articulatory problems of the "more marked" phoneme

ENGEL, Walburga von Raffler, University d'Ottawa, Canada (on leave from Vanderbilt University, Nashville, Tenn.).
Language consciousness in monolingual & bilingual children. French & English. 100. 5-7. Is the child's direct awareness syntactic or semantic?

As predictable from my previous research, the awareness is not syntactic. Syntactic awareness comes to the child only after lengthy prodding by the interviewer. A total of 100 children in the first grades of a French school, and a bilingual French & English school in the Ottawa-Hullares of Canada were asked if the following sentences (not all were obviously given to each child) were correct or incorrect: (can you) me give the book green?, pencil (which) broken was, & the French equivalents. The

children reacted in the same manner when they were native speakers of French, English, or an immigrant language. Bilingual children had the same reaction when questioned in French and when questioned in English. For detailed analysis, see my forthcoming article.

HOSKISSON, Kenneth. Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061.
Reading and language arts for the elementary school.

My research interests are in studying the implications of how the child acquires his language for possible hints on how a child learns to read. One aspect of this is called assisted reading. By immersing a child in reading we hope to find out what he will generalize himself as he responds to the environment and for what aspects of reading it will be necessary to provide a more formal kind of instruction. So far the child seems to generalize the initial consonants that have a so-called regular phoneme-grapheme correspondence. The goal is to get parents to assist their children in reading in an informal manner and thus provide each child with the necessary skills to "succeed" in school.

INGRAM, David and TYACK, Dorothy. Institute for Childhood Aphasia, Stanford University, Stanford, Ca. 94305.
Semantic development. English. 100. 3 - 5 1/2. Comprehension of questions.

We have developed a question comprehension test which we are presently administering to 100 children between the ages of 3 to 5 1/2. The test is administered individually in one ten-minute session. Stimuli are a) photographs and b) questions asked orally about each photograph. Each question consists of one of the question words what, who, why, how, where or when, and one of six common verbs, three transitive and three intransitive. In addition, each question uses the same syntactic form.

The purpose of the study is to establish an order in which children comprehend specific question forms, as well as to relate these to the semantic features of the question forms.

JOHNSON, Edith Trager. ABRAHAM, Frank. Dept. of English Linguistics, San Jose State College, San Jose, California 95114 (and UCSB, 93106).
Effect of Chicano Spanish on Chicano English Syntax. Spanish/English. 40. 6 & 13. High-level vs. low-level effects of Spanish on English syntax and morphology (or Lge X on Lge Y).

Contrastive studies of Spanish and English (and of other pairs of languages) have been quite successful in predicting phonological problems, somewhat successful in predicting morphological problems, and least successful in predicting syntactic and, finally, semantic problems.

Child language acquisition specialists have concerned themselves primarily with very young children although Carol Chomsky is one who dealt with older children, dealing especially with their competence but only in one

area of pronominalization and with three particular transformations. Our study deals with first graders and seventh graders, primarily, who are bilingual in English and Spanish.

They were stimulated to produce English utterances in five basic patterns including transitive, intransitive and linking verbs. Only obligatory transformations were involved. In the hope of eliciting fairly spontaneous speech in response to photographs of children and animals and less spontaneous speech as well (translations, in fact, from carefully selected reflexive and non-reflexive Spanish sentences presented orally by my bilingual research assistant), two sets of stimuli were used.

The resulting data are, we believe, of interest. The analysis of errors that we have made should be of use to linguists, psycholinguists and educators.

JOHNSTON, Judith. 507 Fairbanks, Oakland, California 94610. Acquisition of locatives. English. 3:6. Relationship of cognitive structures and acquisition and use of locatives (Piagetian model).

Research in initial stages only. I hope to identify conceptual bases, i.e., meaning, of early locatives by analyzing their use in varied contexts; then to relate this to level of development of cognitive structures as inferred from performance in non-linguistic tasks.

KESSLER, Carolyn, Ph.D. Owens Hall, Department of Linguistics, St. Mary-of-the-Woods College, St. Mary-of-the-Woods, Indiana 47876. Syntactic development in bilingual children. Italian/English. 12. 6-8. Sequencing of late-developing syntactic acquisitions as viewed from the standpoint of implications for a theory of language acquisition, bi-lingualism, and language universals.

In early April, Georgetown University will publish my report of an investigation of syntactic acquisitions for a group of twelve 6 to 8-year-old bilingual children, The Acquisition of Syntax in Bilingual Children. From the children's simultaneous acquisition of Italian and English, empirical evidence suggests that structures shared by two languages develop in the same sequential pattern and at approximately the same rate. Variations derive from language-specific realization rules relating deep and surface structures. For those structures manifesting differences between the two languages, the linguistically more complex is the later acquisition.

Comprehension tests examined linguistic competence over a wide range of surface structures. A statistical analysis provided the basis for interpreting the general pattern of acquisitions; a case grammar model of transformational theory gave the framework for the linguistic analysis of the specific syntactic structures investigated.

Since findings can only be taken as very tentative and exploratory, present plans are to expand the scope of the research presented in this

monograph by replicating procedures with both monolingual English and monolingual Italian-speaking children as well as extending the age-span and size of the sample tested.

KLATZKY, Roberta L. CLARK, Eve. MACKEN, Marlys. Klatzky: Dept. of Psychology, Stanford, Ca. 94305. Clark and Macken: Committee on Linguistics, Stanford University, Stanford, Ca. 94305.

Semantic development. English. 24. 3;7-4;11. Acquisition of polar adjectives--Is observed asymmetry in learning due to conceptual as well as linguistic components?

Children acquiring polar adjectives (such as high-low) seem to identify the marked term with the unmarked term at a stage prior to correct usage. This experiment was designed to investigate whether this learning sequence is dependent on linguistic cues associated with markedness or a result of the conceptual determinants of markedness: extension or lack of extension. Children were taught the polar adjectives high/low, thick/thin, big/small, and long/short through a task in which nonsense syllables were associated with these concepts and the adjectives themselves were not used. For example, in a typical trial with the long/short pair, E showed S five sticks of varying length, picked one as a standard, and asked S to show her one which was "dak" (short). Similar trials were performed until S's responses reached a criterion. The results show that for each concept, S's pre-criterion error rate and the number of pre-criterion trials were both greater for the marked member of the adjective pair than the unmarked member. Production data support these results and show no evidence that the superior performance with the unmarked adjective is merely a result of response bias or translation of the assigned nonsense word to an English label.

MacWHINNEY, Brian. 628 1/2 Elm, El Cerrito, California 94530.

Cross-cultural; all topics mentioned; primary focus on morphology. Hungarian. 6. 1-3.6. The relationships between linguistic levels in grammars of child language. The need for rule ordering in such grammars.

In my forthcoming dissertation I hope to deal generally with all the aspects of language development in Hungarian, as a part of a review of the already extensive work conducted by native Hungarians. In the course of this review a grammatical model was adopted which includes the features of semantic generation and several independent linguistic levels, as well as unordered sets of rules on any given level. Rules of topic and comment, focus, and emphasis have been developed on the basis of the data of early childhood speech. New data has been gathered in free speech situations in a nursery school from six children 1-3.6. Morphological tests similar to those of Berko (1957) were conducted with a group of 25 children and the rules of the morphological level were outlined. In addition, I might note that I have helped formulate the work being discussed by Harry Osser and that I will co-author the papers stemming from this work.

McNEILL, David. Dept. of Psychology, University of Chicago, Chicago, Ill. 60637.
Production of Speech. English and Japanese. 14 months to ca. 30 years.
The control of serial order in speech.

We are accumulating evidence that the amount of time taken to produce elementary underlying sentence structures is roughly constant. It is not less than 1 second and not more than 2 seconds, regardless of the number of such structures included in a single sentence and regardless of the age (and level of development) of the speaker. This temporal regularity appears for the first time at about 18 months.

MOSKOWITZ, Arlene I. Phonetics Laboratory, UCLA Department of Linguistics, Los Angeles, Ca. 90024. Phonology and semantics. 100.

(1) Investigation of interaction of reading, spelling, and phonology acquisition. About 100 subjects (2nd - 12th grades). Involves pronunciation of real and nonsense words, some of which are derivationally grouped for some subjects. Attempt to correlate results with other reading tests.

(2) Investigation of acquisition of noun classifiers in Tzeltal (Mayan) to add evidence to the issue of whether children organize their semantics in gestalt or feature form at early stages.

(3) Planning a future investigation of acquisition of tones in an African language.

OESTMAN, Bethel. 4841 Hartnett Avenue, Richmond, California 94804.
Syntax. Tagalog. 2 girls. 3 & 5. Order of acquisition of affixes.
Parallels in linguistic and cognitive development.

Tagalog has a fairly complicated verb system which uses prefixes, suffixes, and infixes in various combinations. A complicated combination is used for the imperfective aspect, which is presumably needed early by a child to express an early cognitive function. The purpose of the research is to see how a child sorts out the various affixation processes, in what order he learns how to use them, and what modifications he makes in a difficult linguistic form when it is one that he needs to use very early.

OSSER, Harry. Dept. of Psychology, San Francisco State College, San Francisco, California 94132. Study #.
Study #1: Sociolinguistics; language and thinking. Study #2: Grammatical competence. English. 20. Approx. 5.

#1 - Children are English speaking, 10 are from middle class & 10 from lower class families. They are around 5 years old. Speech samples were obtained from 3 different situations and the hesitations found there were analyzed. The research has two distinct goals: (1) to examine the function(s) of each grouping of hesitations and tie this information to an analysis of the children's data-searching processes, and (2) to test some of Basil Bernstein's notions about social class differences in language usage by inspecting the individual speech monitoring styles of the children.

#2 - I am testing the grammatical knowledge of several autistic children aged from 5 to 10. These children are often characterized as "language-less", so I am testing this belief by using a pictorial comprehension task covering 20 different syntactic structures. The test is an extension & modification of one devised by Fraser, Bellugi & Brown.

SALUS, Peter H. & SALUS, Mary W. Scarborough College, University of Toronto, West Hill, Ontario; & Institute of Child Study, University of Toronto, Canada.
Phonology. English. 20+. 2-6. Phonologies at various stages as systems; acquisition order and neurophysiology.

For several years we have been working on a demonstration of the notion of evaluating the phonological system of a child as a system of ordered rules and as a concomitant that the standard articulation tests have little value in that they do not involve the overall system of the child's language.

More recently, we have been investigating the possibility of justifying and explaining on neurophysiological grounds the bases for the Jakobsonian hierarchizing of features.

SLOBIN, Dan I. Dept. of Psychology, Berkeley, California 94720.
Cognitive prerequisites to grammatical development; early second language acquisition. English, Turkish, Serbo-Croatian. 36 in each language. 1;9-3;6. Cognitive development as pacesetter for linguistic development; development of attentional and storage factors in acquisition.

A cross-sectional and partly longitudinal study will follow a phalanx of 36 children, eventually ranging in age from 1;9 to 5, in each of three language communities: English, Turkish, Serbo-Croatian. A large number of different measures will be employed, both linguistic and non-linguistic. Special attention will be paid to the comprehension and use of locative expressions. The roles of word order and inflections in guiding sentence comprehension will be explored in detail. The project begins in Fall 1972, and runs for four years. The three languages contrast maximally in a number of interesting ways (roughly---isolating, agglutinating, inflecting). Another phase of the project, under the direction of Susan Ervin-Tripp, examines the strategies used for second language acquisition in early childhood (ages 4-8). Studies include the acquisition of English as a second language by Spanish and Japanese speakers. The theoretical issue here has to do with the maturational status of language acquisition strategies. Tom Bever is doing a similar project in New York, on the acquisition of English by Italian speakers. He is a consultant on both phases of our project. Another focus of interest is in the development of deep semantics in child speech. This phase of the work compares development of several languages: English (Slobin, Ervin-Tripp), Finnish (Argoff), Estonian (Vihman), Hungarian (MacWhinney), Serbo-Croatian (Radulovic), Turkish (Slobin). A major goal is to devise a common means of semantic coding across languages. In all of the studies, a major focus is on the relations between semantic intentions and the linguistic means for encoding those intentions in particular languages at particular stages of development. We are interested in the means used by the child for discovering the linguistic expression of semantic intentions, as well as the possible effect of linguistic expression upon cognitive development.

SMITH, Carlota S. Dept. of Linguistics, University of Texas, Austin, Tex. 78712. Grammatical development study of paraphrase, which may be semantic and syntactic. English. 5;0-8;0. Relationship of ability to paraphrase to other grammatical abilities.

An experiment in which children are asked to judge whether one sentence is a paraphrase of another, and to produce paraphrases themselves. Children's response patterns, in comparison to adult response patterns, show certain interesting differences, especially with respect to the passive. Paraphrase may be a research tool that indicates, although not exhaustively, how subjects structure sentences.

SMITH, Michael D. and RUDER, Kenneth. Bureau of Child Research and Dept. of Linguistics, University of Kansas, Lawrence, Kansas 66044. Comprehension and production--Semantic-syntactic development. English & Spanish. 16. 18-33 months. Comprehension and production in relation to mean utterance length--a replication of Shipley, Smith, and Gleitman's 'A Study in the Acquisition of Language: Free Response to Commands'.

Shipley, Smith, and Gleitman's (SSG) 'A Study in the Acquisition of Language: Free Response to Commands' (Language, 1969) purports to have demonstrated (1) that telegraphic commands are more effective in eliciting obedience from the holophrastic child, and (2) that well-formed commands are more effective when dealing with the telegraphic child. If valid, the above serve as support for the claim that 'just those utterance types children themselves do not use are more effective as commands, suggesting a natural progression wherein those who appear to be at the holophrastic (or telegraphic) stage in production respond to speech at or just above their own productive limit' (331). Unlike SSG, this particular study, while accepting the comprehension-exceeds-production hypothesis, questions the idea of a natural progression of items comprehended which some feel the hypothesis entails. Following SSG, the attempted replication was based on the elicitation of responses to simple commands (varied systematically in syntax and content via the use of nonsense items). The overall results computed via analysis of variance yield no significance in relation to mean length of utterance (eight holophrastic vs. eight telegraphic subjects). The findings are not in agreement with SSG's contention that as a whole the holophrastic group tends to obey the child-form commands much more frequently than well-formed commands, the opposite being the case for the telegraphic group. Not to be overlooked as being highly influential in the failure to replicate is the effect of a stimulus class characterized by nonsense in final position, a factor SSG did not control for. Presently, Spanish speaking subjects are being observed in order to further determine the effect of telegraphic vs. well-formed commands in free-response situations.

SPILKA, Irene V. 1212 Pine Ave. West, Montreal, Quebec, Canada.
Second language acquisition. French. 6;0-10;0.

English speaking children have now been enrolled in French immersion classes for a period of five years. These children hear and speak only French at school, although this is not their mother tongue, nor is it spoken in their homes. At the end of each school year the children are tested and matched with a control group.

While psychologists are satisfied that immersion in a foreign language school situation has no adverse effects on the child's general progress, I have been able to observe first hand that speech in the second language is stilted and adultlike, in contrast to the speech of native children and of those who learn their second language in a more "natural" setting, that is while playing with native speakers of their own age groups. It is this difference in quality that I wish to analyze. Several dimensions for assessing errors in second language learning have been suggested (Jack Richards, 1970, 1971) and a method for comparing the linguistic performance of normal and deviant children has been outlined (Morehead and Ingram, 1970). In both cases, however, the target language under scrutiny was English. H. Sinclair-de-Zwart (1967) examined the linguistic output of French speaking normals and deviants in relation with Piaget's notion of the acquisition of conservation by children. Two saliant points to emerge from the latter study were 1) that children can express complex ideas by means of apparently simple sentences, and 2) that, under certain circumstances, more elaborate (adultlike) productions do not necessarily reflect a more advanced cognitive stage of development. I propose to contrast the speech of experimental and control subjects obtained under comparable testing conditions in order to account for the particular type of deviance that occurs under "immersion" learning conditions. It is my belief that some light may be thrown on the processes underlying second language acquisition.

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Phonetic Development. English. 10. 1-52 weeks. Relationship between vocalization behavior and other behaviors in infants in the pre-linguistic period of development.

The project is concerned with the ways in which vocalizations are used by the infant in the prelinguistic stage of development. A set of descriptors has been evolved which adequately and reliably describes features of the sounds produced by infants in this period. Attempts are now being made to classify the communicative behavior of infants in terms of the non-vocal behaviors and situational features accompanying vocalization. Previous attempts made to utilize the classificatory terms current in scales designed to measure intelligence in infants revealed that these classes were not suitable for our purpose. They are defined either in terms of gross features of the sound or gross situational features, but not both. Vocalization data is now being collected together with detailed information about the child's non-vocal

motor behavior and his interaction with his mother at the time of vocalizing. In data analysis, features of the sounds produced will be correlated with these other aspects of the communicative situation. Observations suggest that progressive differentiation and combination of vocalization patterns takes place in this period of development and that emerging patterns may come to be associated with specific types of communicative situations.

STOEL, Caroline. MACKEN, Marlys. VALADEZ-LOVE, Concepción. Stanford Child Language Project, 671 Oak Grove Avenue, Menlo Park, California 94025.
Phonology-Acquisition of Intervocalic Consonants. Spanish. 15. 1;6-4;0. Universals of Developmental Phonology.

The aim of this study is to investigate the development of intervocalic consonants among Spanish-speaking children. The subjects, 15 Mexican-American children, are "tested" weekly for a period of 6 months. During the "test" session, each child is asked to imitate 18 nonsense syllables of the form VCV (e.g., ama, upo, ile, etc.); free speech is also elicited from the subject during each session. Tape recordings are made of each session, with both imitated and free speech being recorded. Subsequently, the imitations are transcribed separately by three individuals, with special attention given to narrow transcription of the intervocalic consonants. During group meetings (free-field or under phones), the three transcribers discuss and reach agreement on the analysis of each VCV. Reference is made to free speech productions to verify the data. Results from this study will be compared with data from previous studies on the acquisition of consonants by English-speaking children.

STAMPE, David. Ohio State University Linguistics Department, Columbus, Ohio, 43214.
Phonology. English. 0-n.

I am currently writing a book, Natural Phonology, with the thesis that phonological systems are exhaustively describable as systems of substitutions, either learned or innate. The innate substitutions reflect restrictions of the language-innocent speech capacity, and may be partly or wholly overcome in learning a language; the residue remains as part of the speech-processing system (applying after slips of the tongue, for example) and is unexceptional in native vocabulary. Sound change is explained as the failure to overcome an innate substitution, or (in the case of optional changes) to overcome it in those contexts/styles in which the acquired language disallows it.

STRAIGHT, H. Stephen. Department of Anthropology, SUNY at Binghamton, N. Y. 13901. (607: 798-2732/-2737).
Segmental and Suprasegmental Phonology, Superficial Phrase Structure, Verb Morphology. Yucatec (Maya). 22. 3 1/2 - 14 years. Idiolectal differences in child language: evidence for "pedolects".

Research represents final stages in write-up of doctoral research undertaken in Yucatan, Mexico, during 1968-69, to be completed this year. Format consists of detailed descriptive accounts of individual deviance from the adult norm in the various areas cited above (segmental and suprasegmental phonology, etc.) on the basis of production data elicited by various means (phonetic, lexical, and sentential imitation, recorded dialogues followed by questions about their content, picture-naming, and language laboratory-type structural change drills). Theoretical sections aim to provide a rule-oriented set of hypotheses to account for the observed pedolectal differences in linguistic production--differences which have thus far steadfastly resisted straight-forward incremental, cumulative, developmental-stage interpretations.

TUNIKS, Galina. (University of Colorado). 805 29th Street, Boulder, Colorado 80303.
Morphology and Phonology. Russian. 28. 7.5 - 1.6.

In the summer of 1970, I gathered some 30 hours of children's speech in kindergarten #18 in the town of Pushkin (ca. 30 miles from Leningrad). The experiment was set up to enlarge the amount of data for a theoretical model which we know on purely a priori grounds is far too powerful and does not need to be shielded from experimental testing. This experiment resulted in an article in the Kahane Festschrift: GOVERNMENT AND CONCORD: A STUDY IN DEVELOPMENTAL PSYCHOLINGUISTICS by W. O. Dingwall and Galina Tuniks. In it several hypotheses are being tested: Age/Order of Acquisition Hypothesis, age of completion of learning process, mean utterance length and level of grammatical development, recency of learning and linear order of categories, case marking and word order, comprehension versus production, 'governing' endings, semantic complexity and order of acquisition, the psychological reality of the grammar.

The findings on the whole, suggest that, given the meager amount of data available, psycholinguists should not be attracted by superficially appealing theories. This paper utilizes but a small amount of the recorded language material; it provides a valuable source for the study of the development of various phonetic, morphological, syntactic, lexical and psychological phenomena. Presently the vowels and the stress is being studied.

WATERSON, Natalie. Department of Phonetics & Linguistics, School of Oriental & African Studies, University of London, W.C.1, London, England.
Phonology and perception. English. 1. 1-2. The unit of perception is not the phonemic segment but the 'skeleton' of a word or larger unit.

The unit of perception is not the phonemic segment but the 'skeleton' of a word or larger unit. The 'skeleton' is based on the 'strongly' articulated features, etc. (Waterson, J.I.P.A. 1971.2, Some views on speech perception) of Neisser's view of auditory & visual perception (V. Neisser, Cognitive Psychology, Appleton-Century-Crofts, 1967). The child recognizes 'skeletons' or patterns in the adult models and produces

his own related patterns within his limited capacity in response, thus his forms are much simpler. At the start, the child copes only with a very limited stretch of utterance in planning, perception and production when attempting to speak. He can repeat longer stretches as less is involved in perception, planning and memory when imitating. At first the speech around him is a meaningless jumble and the child has to recognize something of the acoustic signal as meaningful. He 'latches on' to the most prominent part of limited stretches of utterance and attempts to reproduce what he is best able of the features involved. He thus 'builds-in' his own independent system which is closely related to the model. Once some such simple functional system is established, he is able to give more attention to the rest of the model as it is no longer completely strange. He thus makes new responses which bring about a change in his system which in turn results in new responses. This process continues until his system matches the adult model. (See N. Waterson J.L. 1971.7.2, T.P.S. 1970, and T.P.S. 1971 forthcoming.)

WEBSTER, Brendan. INGRAM, David. Institute for Childhood Aphasia, Stanford University, Stanford, California 94305.
Syntax. English. 60. 3.0-10.00. Nature of case, gender, and co-reference in pronouns.

We are currently conducting research to determine the acquisition and development of four pronouns, he, she, him, her, in child language. Sixty subjects, thirty normal and thirty dysphasic, were used in the study. The normal subjects ranged in age from 3.0-4.5 and were divided into three age groups, while the aphasic subjects were divided into groups on the basis of linguistic development as determined by MLU. Each subject was presented with a comprehension task and a production task. An adult male doll and an adult female doll were used, as were a child male doll and a child female doll. These dolls were manipulated by the experimenter to elicit responses on the production task, and by the subject according to experimenter directions on the comprehension task. The data are presently being analyzed. It is hoped that this data will offer an indication of the order of pronoun development in relation to gender, case, and co-references, and provide a comparative view between normal and deviant development.

WHITAKER[1], Harry A. NOLL[2], J. Douglas. (Both currently at Mayo Clinic, Rochester, Minn., until September 1972.) 1. Dept. of Linguistics, University of Rochester, Rochester, N. Y. 14627; 2. Dept. of Audiology & Speech Science, Purdue University, Lafayette, Indiana 47907.
Syntactic and semantic development. English. 252. 5.0-11.11 years. "Linguistic Parameters of the Token Test".

The Token Test was developed to assess receptive language abilities in adult aphasics but seemed suitable as an index of development of language skills as well. Parts 1-4 are 40 commands using the verb TOUCH; part 5 is 22 commands using the verbs PICK UP, TAKE, and PUT as well. The tokens are circles and squares of two sizes and five colors. Demonstrable knowledge of colors, large vs. small and circle vs. square is a prerequisite to taking the test. Noll gave the test to 252 normal children (Lafayette,

Indiana area) ranging in age from 5.0 to 11.11 years. There was a steady increase in scores up to the 7.6-8.0 age bracket, then a plateau which remained normal adult value by 11.11 years.

Of 1303 errors in part 5, approximately 62 percent (846 errors) were due to only 8 of the 22 commands. For example, #43, "Touch the blue circle with the red square" caused a high of 168 errors, much higher than "Touch the blue circle and the red square". We note that the number of morphemes in the commands were inversely related to the number of errors, thus ruling this out as an explanation. Considering these sentences linguistically provide partial explanation of the results. In parts 1-4, commands using the verb TOUCH did not express an instrument; therefore subjects only had to process the implicit instrument (finger, etc.). But in part 5, commands using the verb TOUCH did express an instrument (another token or, in one case, disallowing use of dominant hand). We also noted a confusion between the active TOUCH and the stative and symmetrical TOUCHING, as in 'X and Y are touching each other', in that some subjects moved the tokens so as to make them in fact touching each other, contrary to the command as in #43 above.

Other commands which appeared to reflect semantic development in some manner were use of WITH as a comitative rather than instrument, BEFORE and AFTER clauses in which surface word order was same as or different from the demanded temporal sequence in the command, commands with two predicators (e.g., PICK UP and TOUCH) and, as expected, the amount of material in the NP which the subject had to process (e.g., CIRCLE or SMALL BLUE CIRCLE).